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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,043	05/11/2001	Miroslav Trajkovic	US 010241	8183

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

PATEL, SHEFALI D

ART UNIT PAPER NUMBER

2621

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,043

Applicant(s)

TRAJKOVIC, MIROSLAV

Examiner

Shefali D Patel

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 7, 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Allred et al. (US 6,310,982) (hereinafter, Allred”).

With regard to **claim 1** Allred discloses a method for identifying motion in a sequence of images (See, col. 4 lines 19-24) comprising: determining a difference in pixel value between a pixel in a first image (the current image defined by $X_i(t)$ at col. 4 line 31) and a corresponding pixel in a second image (immediately previously image defined by $X_o(t-1)$) (the difference, ‘D’ is obtained as disclosed at col. 4 lines 30-36 and further at col. 5 lines 32-38), determining an image gradient (i.e., weighted average value) measure in a vicinity of the pixel (See, col. 4 for weighted average value and further explained in detail at col. 6 lines 3-15), and classifying the pixel as stationary based on the difference in pixel value and the image gradient measure (the status of the pixel value is determined by image gradient value in relation to motion value ‘M’ and the difference value ‘D’ as disclosed at col. 4 line 55 to col. 5 lines 1-12).

Claim 7 recites identical features as claim 1 except claim 7 is a system claim. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 7. Note, Allred discloses an apparatus (a system) in his invention as disclosed at col. 4 lines 1-18.

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With regard to **claim 12** Allred discloses video images, which are inherently obtained by a video camera(s).

Claim 13 recites identical features as claim 1 except claim 13 is a computer program claim. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 13. Note, a computer program is run by a processor, which is disclosed in a system in Allred's invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3, 5, 8-9, 11-12, 14-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allred (US 6,310,982) in view of Catros, et al. (US 4,613,894) (hereinafter, "Catros").

With regard to **claim 2** Allred discloses classifying the pixel as stationary based on the difference in pixel value and the image gradient measure as disclosed in claim 1. Allred does not expressly disclose classifying the pixel as stationary based on a comparison of the difference in pixel value to a defined threshold level. Catros discloses this at col. 3 lines 17-32 and 56-62. Allred and Catros are combinable because they are from the same field of endeavor, i.e., motion detection. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Catros with Allred. The motivation for doing so is to avoid any loss in point value for motion calculation as suggested by Catros at col. 3 lines 29-33.

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Therefore, it would have been obvious to combine Catros with Allred to obtain the invention as specified in claim 2.

With regard to **claim 3** Catros discloses determining the image gradient including: determining a first average change in pixel values between pixels to the left and right of the pixel (i.e., horizontal direction), and determining a second average change in pixel values between pixels above and below the pixel (i.e., vertical direction) (see, col. 4 lines 6-13).

Claim 5 recites identical features as claim 2 except claim 5 discloses classifying non-stationary pixel rather than stationary which is disclosed by Catros at col. 3 lines 17-32 and 56-62. Thus, arguments similar to that presented above for claim 2 is equally applicable to claim 5.

With regard to **claim 8** Catros discloses the processor is further configured to classify the pixel as containing stationary (**or** moving data), based on a comparison of the difference in pixel value to **at least one of**: a defined threshold level (See, col. 3 lines 17-32 and 56-62), (and a threshold level that is dependent upon a misalignment factor that corresponds to a degree of misalignment between the first and second images).

Claim 9 recites identical features as claim 3 except claim 9 is a system claim. Thus, arguments similar to that presented above for claim 3 is equally applicable to claim 9.

With regard to **claim 11** Catros discloses classifying the pixel as containing moving data if a difference between the difference in pixel value and the image gradient measure is greater than a defined threshold level (See, col. 3 lines 33-44, 56-62 and col. 4 lines 1-5).

With regard to **claim 12** Catros discloses a camera at col. 4 lines 63-64.

Claim 14 recites identical features as claim 8. Thus, arguments similar to that presented above for claim 8 is equally applicable to claim 14.

Claim 15 recites identical features as claim 9. Thus, arguments similar to that presented above for claim 9 is equally applicable to claim 15.

Claim 17 recites identical features as claim 11. Thus, arguments similar to that presented above for claim 11 is equally applicable to claim 17.

5. Claims 4, 6, 10, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allred (US 6,310,982) in view of Banh et al. (US 5,150,426) (hereinafter, "Banh").

With regard to **claim 4** Allred discloses method of claim 1. Allred does not expressly disclose aligning the first image and the second image. Banh discloses this at col. 6 lines 9-12 and lines 65-68 to col. 7 lines 1-7, col. 7 lines 28-32. Allred and Banh are combinable because they are from the same field of endeavor, i.e., motion detection. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Banh with Allred. The motivation for doing so is to eliminate requirement to track the images and to measure the spatial coordinate differences between the two images as suggested by Banh at col. 7 lines 1-7. Therefore, it would have been obvious to combine Banh with Allred to obtain the invention as specified in claim 2.

With regard to **claim 6** Banh discloses classifying the pixel further based on a misalignment factor that corresponds to an estimate of a misalignment between the first and second images (See, col. 7 line 68 to col. 8 lines 1-3 and 12-16).

Claim 10 recites identical features as claim 4. Thus, arguments similar to that presented above for claim 4 is equally applicable to claim 10.

Claim 16 recites identical features as claim 10. Thus, arguments similar to that presented above for claim 10 is equally applicable to claim 16.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,167,164; US 6,625,318.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D Patel whose telephone number is 703-306-4182. The examiner can normally be reached on M-F 8:00am - 5:00pm (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DANIEL MARIAM
PRIMARY EXAMINER

Shefali D Patel
Examiner
Art Unit 2621

June 24, 2004